

COOLING
inno

innovative thermal storage technology
for smart and sustainable buildings

Heat impairs efficiency and health at work. Heat causes discomfort. Air conditioning consumes expensive energy. In summer time room temperatures may quickly rise to a level that is equal to or even higher than the temperature outside. The conventional way of solving this problem is to install expensive air-conditioning systems - with all their well-known economic, ecological and medical drawbacks.

We have a new innovative solution.

AIR TOWER by COOLING INNO

AIR TOWER is a low energy cooling and ventilation system that creates a comfortable, fresh and healthy indoor environment and substantially reduces the cooling costs.

Stay cool without air conditioning.

Bring comfort to your home and office.

Reduce the costs and usage of your air-conditioning unit.



COOLING inno

innovative thermal storage technology
for smart and sustainable buildings

We have come up with the **solution HETAC**
(High Efficiency Thermal Air Conditioning)
called **AIR TOWER** that:

→ utilises thermal storage capabilities of Phase Change Materials (PCM), providing stored energy for cooling during peak heat load period

→ cools/recharges the PCM during most efficient period utilising off peak power and low ambient temperature

→ uses no refrigerants making it an environmentally friendly and non toxic solution to cooling your home and offices

→ requires minimal power to operate resulting in more than 80% energy savings compared with conventional air conditioning



Our AIR TOWER can store up to 1617 Wh of heat during the day time operation and uses only 6W of electricity.

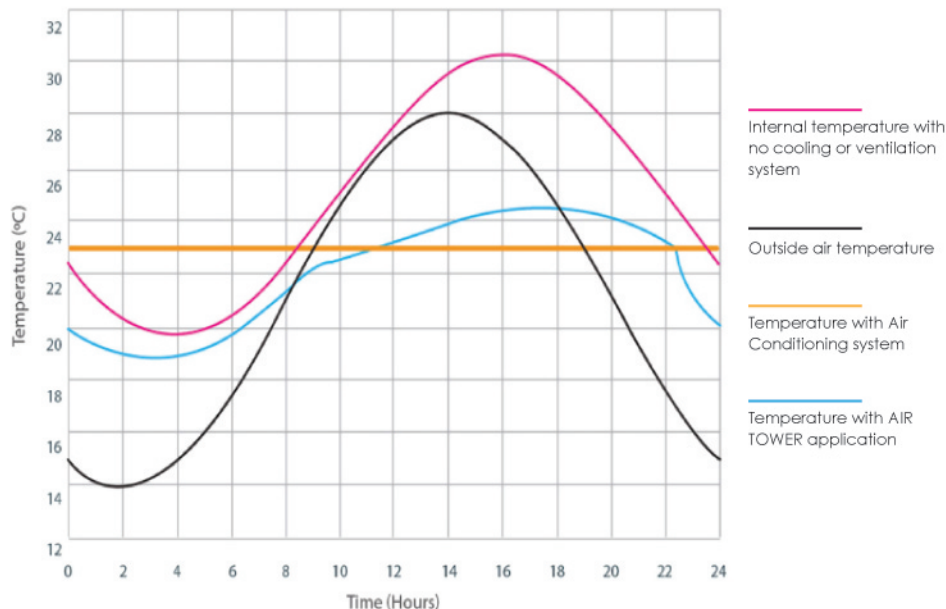


Energy stored during the day can be used at night or in the morning. One unit can cover 20-35m² of the office space.

HOW IT WORKS

→ AIR TOWER uses the concept of a 'Thermal Battery' to capture and store the excess heat in the room.

→ The Thermal Batteries use the Phase Change Materials (PCMs) that change phase at room temperature and therefore store large amounts of heat energy, which is charged and discharged by passing air through a heat exchanger.



ADVANTAGES:

- Low running costs
- No external units
- Energy and carbon saving
- Healthy and productive
- No refrigerants
- Portable

APPLICATIONS:

- can be used in
- Commercial
- Business
- Home
- Retail
- Education spaces.

PERFORMANCE SPECIFICATION:

- Normal ventilation rate (occupied hours): between 30 to 90 m³/h
- Maximum ventilation rate (recharge mode): 120 m³/h
- Thermal energy storage: 1,1 to 1,7 kWh dependant on model

The graph on the right shows the performance of the system in a simplified model. The black line shows the external temperature varying between 14 °C at night and 28 °C during the day. The temperature in the building, with no cooling or heating, is shown by the pink line and peaks around 30 °C. The blue line shows the temperature within the same space with AIR TOWER installed, showing a significant reduction in the peak temperatures. AIR TOWER is not designed to match the outright performance of the Air Conditioning (AC) system, which is typically specified to maintain a temperature of 23 °C; however it has resulted in an 80 to 90% improvement in temperature for 10% of the energy usage of the AC system. When fine levels of temperature control are required, the AIR TOWER can be used alongside a conventional cooling solution to reduce the overall energy usage.

COOLING
inno

innovative thermal storage technology
for smart and sustainable buildings



BENEFITS of using AIR TOWER:

- No external noise
- Very low running costs
- No external units are required
- Highly energy efficient system
- Long life and a warranty of 5 years
- Modular, scalable and adaptable design
- Creates a healthy and productive environment
- High performance ventilation and cooling system
- Environmentally friendly and sustainable solution that uses no refrigerants

FOR MORE INFORMATION CONTACT US ON:

address

SETRAN PLUS d.o.o.
1000 Ljubljana,
Slovenia
Europe

phone

+386 31 346 280

email

rok.loncaric@hotmail.com